

## WHAT IS CLAIMED IS:

1. An inhibitor molecule that binds to C2a or the C2a portion of C2.
2. An inhibitor molecule that binds to C2a or the C2a portion of C2 and inhibits both the classical and the lectin complement pathways.
- 5 3. An inhibitor molecule that binds to the same epitope as the monoclonal antibody 175-62.
4. The inhibitor molecule of any one of claims 1, 2, or 3, wherein said molecule is an antibody or a homologue, analogue or fragment thereof, a peptide, an oligonucleotide, a peptidomimetic or an organic compound.
- 10 5. The inhibitor molecule of claim 4, wherein the antibody fragments are Fab, F(ab')<sub>2</sub>, Fv or single chain Fv.
6. The inhibitor molecule of claim 5, wherein the antibody is monoclonal.
7. The monoclonal antibody of claim 6, wherein the antibody is a chimeric, Deimmunized™, humanized or human antibody.
- 15 8. A monoclonal antibody 175-62.
9. A cell line that produces the monoclonal antibody 175-62.
10. A pharmaceutical composition comprising the inhibitor molecule of claim 1 and a pharmacologically acceptable carrier, excipient, stabilizer, or diluent.
11. A method of inhibition of complement activation comprising administering  
20 an inhibitor molecule that binds C2a or the C2a portion of C2.

12. A method of inhibition of the classical and lectin complement pathways comprising administering an inhibitor molecule that binds C2a or the C2a portion of C2.
13. The method of claim 11, wherein the inhibition of complement activation is determined *in vitro*.
14. The method of claim 11, wherein the molar ratio of inhibitor molecule to C2 is less than or equal to 1:2.
15. A method of treating a disease or condition that is mediated by excessive or uncontrolled activation of the complement system comprising administering, *in vivo* or *ex vivo*, an inhibitor molecule according to any of claims 1 to 3, 8 or 10.
16. The method of claim 15, wherein the inhibitor molecule is administered by intravenous infusion, intravenous bolus injection, intraperitoneal, intradermal, intramuscular, subcutaneous, intranasal, intratracheal, intraspinal, intracranial, or orally.
17. A diagnostic method comprising the detection of the amount of C2 or C2a present in a sample with the inhibitor molecule of claim 4.
18. The diagnostic method of claim 17, wherein the inhibitor molecule is the monoclonal antibody 175-62.